



D-1221

Applicant : Koki Tanaka et al.

Title : MAINTENANCE SYSTEM FOR ANALYZING INSTRUMENT

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Examiner : Carol S. Tsai

Hon. Commissioner for Patents
P.O. Box 1450, Alexandria, VA 22313-1450

May 7, 2004

APPEAL BRIEF

Sir:

Further to the Notice of Appeal filed on March 12, 2004, an appeal brief has been filed in triplicate. A check in the amount of \$330.00 is attached herewith for the appeal brief fee.

REAL PARTY IN INTEREST

The applicant is the real party in interest.

RELATED APPEALS AND INTERFERENCES

There is no related appeal and interference.

STATUS OF CLAIMS

Claims 1-6 were rejected finally, and are at issue.

STATUS OF AMENDMENT

In response to the final Action of October 14, 2003, an amendment was filed on January 12, 2004. However, the amendment was not entered by the advisory Action of February 13, 2004, wherein it was held that the rejection of claim 1-6 are maintained because amended claims 1, 5 and 6 are derived of combination of the rejected independent claim 1 and rejected dependent claims 2, 3 and 4 respectively.

SUMMARY OF INVENTION

The present invention relates to a maintenance system for an analyzing instrument, wherein maintenance information of the analyzing instrument is properly retained to solve abnormality in the analyzing instrument used in various fields, such as spectrophotometer.

Conventionally, when an analyzing instrument is sold and installed in a user site, an operator for the analyzing instrument carries out regular maintenance and handles problems by diagnosing and solving abnormalities suddenly occurred based on an operation manual.

However, the problems of the instrument arise from various reasons. Even if a malfunction of the instrument is caused by a simple reason, it sometimes takes long time and labor to solve the abnormality by the operator.

In view of the problems in the conventional repair system in the analyzing instrument, the present invention has been made. In the invention, when a problem arises in the analyzing instrument, the problem can be solved easily or it is judged that the repair should be made by an outside repair person.

As shown in Fig. 1, a maintenance system for an analyzing instrument (1), such as a spectrophotometer, comprises a first computer (3) provided in the analyzing instrument, and a second computer (21) provided in a maintenance department side and

connected to the first computer (3) through a communication line, e.g. telephone line.

The first computer (3) includes inspecting means for inspecting abnormality of the analyzing instrument, executing means for executing an inspection by operating the inspecting means, and first communication means (11) connected to the first computer for sending result information obtained by executing the inspection by the executing means. The inspecting means for inspecting abnormality of the analyzing instrument and the executing means for executing the inspection correspond a control section (5) in Fig. 1.

Namely, inspections, such as initial inspection and basic function inspection as stated in paragraph 0023 of the specification, are performed for the analyzing instrument (1) by the inspecting means and executing means. The information obtained by the inspection is sent to the second computer (21).

The second computer (21) provided in the maintenance department side includes information storing means (19) sequentially storing the result information sent from the first computer (3) through a communication line and storing in advance maintenance information for solving abnormalities, searching means (31) for searching the maintenance information corresponding to abnormality information contained in the result information sent from the first computer (3) from the information storing means to extract the maintenance information, and second communication means (23) connected to the searching means for sending the maintenance information extracted by the searching means to the first computer through the communication line.

Namely, as explained in paragraph 0030, the information storing means or server (19) stores the maintenance information and the inspection result sent from the first computer. In the searching means (31), as explained in paragraphs 0037, 0042 and 0043, the maintenance information deemed to be abnormal is extracted, wherein

if the abnormality was minor, an adjustment is made by the server (19), and if the same abnormality has continuously occurred, the abnormality is determined as a fatal abnormality and parts or IC are replaced.

According, in the maintenance system in claim 1, the analyzing instrument is searched in a regular basis. When an abnormality is found, if the abnormality is minor, the abnormality is corrected without a specific repair person, and if the abnormality is major, the abnormality is corrected by replacing the parts with a repair person.

In claim 2, it is clarified that the searching means (31) refers to an abnormality occurrence frequency at a portion where the abnormality occurs from accumulated result information obtained in a past inspection of the analyzing instrument in which the abnormality is detected to thereby obtain optimum repair information. Namely, the results of the past inspections sent from the first computer (3) are memorized in the information storing means (19), so that the searching means (31) can find the problem most likely happened from the past problems, and find the optimum repair information.

In claim 5, in addition to the structure in claim 1, it is clarified that the maintenance system further includes inspection result determining section (29) for receiving the result information sent from the first computer (3) and determining if the result information contains the abnormality, access person identifying means (9) provided in the first computer for identifying an access person, and user identifying means (27) provided in the second computer for identifying a user. The inspection result determining section (29) sends the result information to the storing means (19) if there is no abnormality and to the searching means (31) if there is the abnormality.

In claim 5, therefore, it is clear that the inspection result determining section (29) determines the abnormality from the

inspection results from the first computer (3) and keeps the information in the storing means (19) or finds the abnormality at the searching means. Also, it is clarified that the access person identifying means (9) and user identifying means (27) are provided in the maintenance system.

In claim 6, it is clarified that a spectrophotometer is connected to the first computer for analyzing.

ISSUE

Whether claims 2, 5 and 6 are anticipated under 35 U.S.C. 102(e) by U.S. Publication 2002/0059030 to Otworth et al.

GROUPING OF CLAIMS

Claims 2, 5 and 6 should be examined separately. In case the amendment filed on January 12, 2004 is accepted, claims 1, 5 and 6 should be examined separately.

ARGUMENT

Explanation of the Amendment of Claims

In the final Action of October 14, 2003, claims 1-6 were rejected finally. In response to the final Action, an amendment after final Action was filed, wherein the subject matter of claim 2 was added to claim 1; the subject matter of claims 1 and 4 was added to claim 5; and the subject matter of claims 1, 4 and 5 was added to claim 6. Namely, claim 1 is equivalent to an independent form of claim 2, and claims 5 and 6 were simply amended to an independent form, respectively.

Although the amendment did not introduce new issue, as explained above, the amendment was not entered in a case of filing an appeal. In this respect, the Examiner's advisory Action on February 13, 2004 is not proper.

However, assuming that the advisory Action is correct, it is requested to examine claims 2, 5 and 6. Also, claims 2, 5 and 6 should be examined, separately. Claims 2 and 4 contain the subject matter, which is not disclosed or suggested in claim 1, and claim 6 clarifies the subject of the analyzing instrument. Namely, claims 2, 4 and 6 can be separately patentable. Therefore, it is requested to examiner claims 2, 5 and 6, separately.

Explanation and Argument to the Cited Reference

Otworth et al. cited in the final Action is directed to a system for processing electronic information associated with a biological subject 10. The system includes a testing kit 100 for obtaining a representative sample 115 of the biological subject 10, and a remote data service 200 associated with and located away from the testing kit 100 to determine pre-selected test results. The testing kit 100 includes a cartridge 110 for performing a pre-selected test and generating electronic information 70, and a modem 173. The data service 200 receives information from the testing kit 100, and generates and transmits test results to a test kit operator or a third party. Namely, information for the biological subject 10 remotely collected at the testing kit 100 is provided or transmitted to a centralized testing service 200, and there, processing, managing and distributing the data and the associated processed data thereby enabling various application and uses of the data (paragraph 0002).

As an embodiment, biological substances, such as blood, urine and so on, is obtained in the testing kit 100. The data service 200 includes a data analysis module 220 that analyzes the received data to produce analysis results 230, which may be provided to technicians. Patient records are stored in a patient records database 260, and may be correlated with a secondary data set to find some relationship. Also, data read in the cartridge reader

130 is checked, i.e. if the cartridge reader 130 performed adequately.

In Otworth et al., no method is shown to correct malfunction of the test kit or cartridge reader from the data service 200. Namely, even if the testing kit 100 does not operate properly, it is not possible to check and correct the malfunction of the test kit 100.

In claim 2 of the invention, the first computer includes the inspecting means for inspecting abnormality of the analyzing instrument. In Otworth et al., in the testing kit 100, representative sample 115 of the biological subject 10 is obtained and sent to the center data service 200. However, there is no inspecting means for inspecting abnormality of the analyzing instrument or other instrument, i.e. testing kit 100. Therefore, Otworth et al. does not have the inspecting means of the invention.

In claim 2 of the invention, the first computer further includes executing means for executing the inspection by the inspecting means. Since no inspecting means is provided in Otworth et al., the executing means for executing the inspection is not provided as well.

In claim 2 of the invention, the second computer includes the information storing means storing in advance maintenance information for solving abnormalities. In Otworth et al., the test information is stored, but no maintenance information is stored. Especially, no information for solving abnormality is stored in advance in the memory.

Further, in claim 2 of the invention, the searching means searches the maintenance information corresponding to abnormality information contained in the result information. Especially, the searching means refers to an abnormality occurrence frequency at a portion where the abnormality occurs from accumulated result information obtained in the past inspection of the analyzing

instrument in which the abnormality is detected. In Otworth et al., the patient records are stored in a patient records database 260, and may be correlated with a secondary data set to find some relationship. However, the abnormality occurrence frequency is not referred to nor obtained in Otworth et al.

The above basic structure is recited in claim 1. In claim 2, in addition to the above basic structure, it is clarified that the searching means refers to an abnormality occurrence frequency at a portion where the abnormality occurs from accumulated result information obtained in a past inspection of the analyzing instrument in which the abnormality is detected to thereby obtain optimum repair information.

In Otworth et al., patient records are stored in a patient records database 260, and may be correlated with a secondary data set to find some relationship. However, in claim 2, abnormality occurrence frequency in the past inspection is obtained to find optimum repair information.

Therefore, the features of claim 2 of the invention are not disclosed or even suggested in Otworth et al.

In claim 5, in addition to the basic structure of claim 1, the maintenance system further includes inspection result determining section for receiving the result information sent from the first computer and determining if the result information contains the abnormality. The inspection result determining section sends the result information to the storing means if there is no abnormality and to the searching means if there is the abnormality. Accordingly, the inspection result determining section determines if the abnormality is included or not, and send the result to the storing means or searching means.

In Otworth et al., data read in the cartridge reader 130 is checked to find if the cartridge reader 130 performs adequately.

However, if abnormality is found in the data, no action is taken to solve the abnormality. Also, no maintenance information is stored in the storing means for solving the abnormality, and no maintenance information corresponding to the abnormality information is searched in Otworth et al. Thus, there is no inspection result determining section in Otworth et al.

In claim 6, the maintenance system in claim 5 is further specified such that a spectrophotometer is connected to the first computer as the analyzing instrument. In Otworth et al., electronic sensors in the testing kit 100 may be formed by spectrometry-based sensing methods. However, the maintenance of the spectrophotometer is not considered at all.

In sum, in Otworth et al., information of the subject is obtained from the testing device in the testing kit 100, and the testing device is checked only by calibration in the central data service 200. No information corresponding to abnormality for solving the abnormality is stored and searched in the testing kit 100 or central data service 200 in Otworth et al. The specific searching means for searching the maintenance information corresponding to abnormality information and other structure for solving abnormality in the analyzing instrument of the invention are not disclosed or suggested in Otworth et al. The invention is patentable over Otworth et al.


CONCLUSION

As explained above, the cited reference does not disclose the features of the invention. The invention is patentable over the cited reference.

It is respectfully requested that the rejection be reversed, and the application be allowed.

Respectfully Submitted,

HAUPTMAN KANESAKA BERNER
PATENT AGENT LLP

By 
Manabu Kanesaka
Reg. No. 31,467
Agent for Applicants

1700 Diagonal Road, Suite 310
Alexandria, VA 22314
(703) 519-9785

CLAIMS

1. A maintenance system for an analyzing instrument, comprising:

a first computer provided in an analyzing instrument and including inspecting means for inspecting abnormality of the analyzing instrument, executing means for executing an inspection by operating the inspecting means, and first communication means connected to the first computer for sending result information obtained by executing the inspection by the executing means, and

a second computer provided in a maintenance department side and including information storing means sequentially storing the result information sent from the first computer through a communication line and storing in advance maintenance information for solving abnormalities, searching means for searching the maintenance information corresponding to abnormality information contained in the result information sent from the first computer from the information storing means to extract the maintenance information, and second communication means connected to the searching means for sending the maintenance information extracted by the searching means to the first computer through the communication line.

2. A maintenance system for an analyzing instrument according to claim 1, wherein said searching means refers to an abnormality occurrence frequency at a portion where the abnormality occurs from accumulated result information obtained in a past inspection of the analyzing instrument in which the abnormality is detected to thereby obtain optimum repair information.

3. A maintenance system for an analyzing instrument according to claim 1, wherein the second computer includes remote operating means for remotely operating the executing means of the first computer.

4. A maintenance system for an analyzing instrument according to claim 1, further comprising inspection result determining section for receiving the result information sent from the first computer and determining if the result information contains the abnormality, said inspection result determining section sending the result information to the storing means if there is no abnormality and to the searching means if there is the abnormality.

5. A maintenance system for an analyzing instrument according to claim 4, further comprising access person identifying means provided in the first computer for identifying an access person, and user identifying means provided in the second computer for identifying a user.

6. A maintenance system for an analyzing instrument according to claim 5, further comprising a spectrophotometer connected to the first computer for analyzing.